

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A method for scheduling a packet, comprising the steps of:
 - receiving a packet;
 - identifying a flow for said packet;
 - classifying said packet based on said identified flow; and
 - buffering said packet in one of a plurality of queues, arranged in a hierarchical order, based on said classification of said packet and a priority of said packet assigned based on said hierarchical order.
2. (Original) The method of claim 1, wherein identifying said flow for said packet comprises identifying a source address of said packet.
3. (Original) The method of claim 1, wherein identifying said flow for said packet comprises identifying a destination address of said packet.
4. (Original) The method of claim 1, wherein classifying said packet comprises:
 - calculating a size of said packet; and
 - calculating an allocated credit assigned to said flow based upon said size of said packet.

5. (Original) The method of claim 4, wherein calculating said allocated credit is based upon a bandwidth assigned to said flow.

6. (Currently Amended) The method of claim 1, wherein buffering said packet in one of said plurality of queues ~~based on said classification of said packet~~ comprises:
arranging said plurality of queues in a hierarchical order;
assigning a priority to said packet based on said hierarchical order; and
buffering said packet in one of said queues based on said assigned priority.

7. (Original) The method of claim 6, wherein assigning a priority to said packet based on said hierarchical order comprises;
determining a size of said packet; and
calculating a transmission delay based on said size of said packet and said hierarchical order.

8. (Original) The method of claim 1, further comprising:
identifying at least one of said plurality of queues having buffered packets;
determining a first queue of said plurality of queues having buffered packets;
calculating a credit accumulated for one of said buffered packets in the first queue; and
outputting said one buffered packet based upon said accumulated credit.

9. (Original) The method of claim 8, further comprising:

determining a hierarchical order for said queues having buffered packets; and

determining a next queue having buffered packets based on said hierarchical

order.

10. (Currently Amended) A system for scheduling a packet, comprising;

an input to receive a plurality of packet;

an arrival module to identify a flow for each of said plurality of packets;

a classifier to assign each of said plurality of packets to one of a plurality of

queues, arranged in a hierarchical order, based on said identified flow.

a server for selecting one of said plurality of queues based on [[a]] said

hierarchical order; and

an output for outputting a packet from said selected queue based on said

identified flow and a priority of said packet assigned based on said hierarchical order.

11. (Original) The system of claim 10, further comprising:

a memory to store a service list of flows identified for each of said plurality of

packets.

12. (Currently Amended) An apparatus for scheduling a packet, comprising:

means for receiving a packet;

means for identifying a flow for said packet;

means for classifying said packet based on said identified flow; and

means for buffering said packet in one of a plurality of queues, arranged in a hierarchical order, based on said classification of said packet and a priority of said packet assigned based on said hierarchical order.

13. (Currently Amended) A computer-readable medium for configuring a processor to execute a method for scheduling a packet, said method comprising the steps of:

receiving a packet;

identifying a flow for said packet;

classifying said packet based on said identified flow; and

buffering said packet in one of a plurality of queues, arranged in a hierarchical order, based on said classification of said packet and a priority of said packet assigned based on said hierarchical order.